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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|----------------------------------|------------------|
| 10/737,370 | 12/16/2003 | Jean-Hua Yuen | N1085-00250 | 5375 |
| 8933 | 7590 | 10/04/2004 | [TSMC2003-082] | |
| DUANE MORRIS, LLP IP DEPARTMENT ONE LIBERTY PLACE PHILADELPHIA, PA 19103-7396 | | | EXAMINER DOUGHERTY, ANTHONY T | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2863 | |

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/737,370

Applicant(s)

YUEN ET AL.

Examiner

Anthony T. Dougherty

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-20 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-11 is/are rejected.
- 7) ☒ Claim(s) 6 and 12-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, and 7-11 rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,752,898 to Koenig.

With regard to claims 1 and 7 Koenig discloses apparatus for detecting wafer flat shift (see abstract), with a plurality of sensors in a power supply circuit for shutting off wafer fabrication equipment (see column 3 line 18-40), the sensor detecting a shift in wafer flat position (see column 3 line 61-64), and the power supply circuit shutting off the wafer fabrication equipment when the shift exceeds a set amount (see column 3 line 18-31).

With regard to claims 2 and 8, and applying the rejection of claims 1 and 7 above, Koenig discloses the sensors adjusted to detect a wafer flat shift in a plurality of directions of angular displacement (see column 3 line 64 through column 4 line 34).

With regard to claims 3 and 10, and applying the rejection of claims 1 and 7 above, Koenig discloses the sensors adjusted to detect a wafer flat shift in a range of (2)(0.9°) to (5)(0.9°) angular displacement (see column 4 line 23-32).

With regard to claim 4, and applying the rejection of claim 1 above, Koenig discloses a frame (see Figure 1), and an adjustable mounting mechanism mounting each sensor on the frame for adjustment along orthogonal axes (see column 3 line 36-60).

With regard to claim 5, and applying the rejection of claim 1 above, Koenig discloses a frame (see Figure 1), and sensors being adjustably mounted on the frame (see column 3 line 36-60).

With regard to claim 9, and applying the rejection of claim 7 above, Koenig discloses detecting the wafer flat shift by optical beam sensors (see column 3 line 36-60).

With regard to claim 11, and applying the rejection of claim 7 above, Koenig discloses detecting the wafer flat shift by optical beam sensors and adjusting the position of the sensors (see column 3 line 36-60).

Allowable Subject Matter

3. Claims 15-20 allowed.
4. Claims 6, and 12-14 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claims 6, 12-14, and 15-20 is the inclusion of the limitations of an apparatus for detecting a wafer flat shift which includes a relay activated by signals from sensors detecting an angular displacement of a wafer flat, a solenoid operated by the relay to open a door to release a corresponding wafer for further fabrication, and when a wafer flat shift is sensed shut off the sensors which activate the door. It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 4,880,348 to Baker et al. because it teaches a device for centering and rotating a wafer flight using optical beam sensors.

U.S. Patent No. 4,449,885 to Hertel et al. because it teaches a wafer transfer assembly with wafer flat adjustment.

U.S. Patent No. 5,452,521 to Niewmierzycki because it teaches detection and correction of angular displacement of a wafer using optical beam sensors.

U.S. Patent No. 5,483,138 to Shmookler et al. because it teaches detecting and aligning the center of a wafer.

U.S. Patent No. 5,725,664 to Nanbu et al. because it teaches wafer flat detection and alignment inside a chamber with a door that controls air discharge of the chamber

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T. Dougherty whose telephone number is (571) 272-2273. The examiner can normally be reached on Monday through Friday from 8 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



atd



John Barlow
Supervisory Patent Examiner
Technology Center 2800